

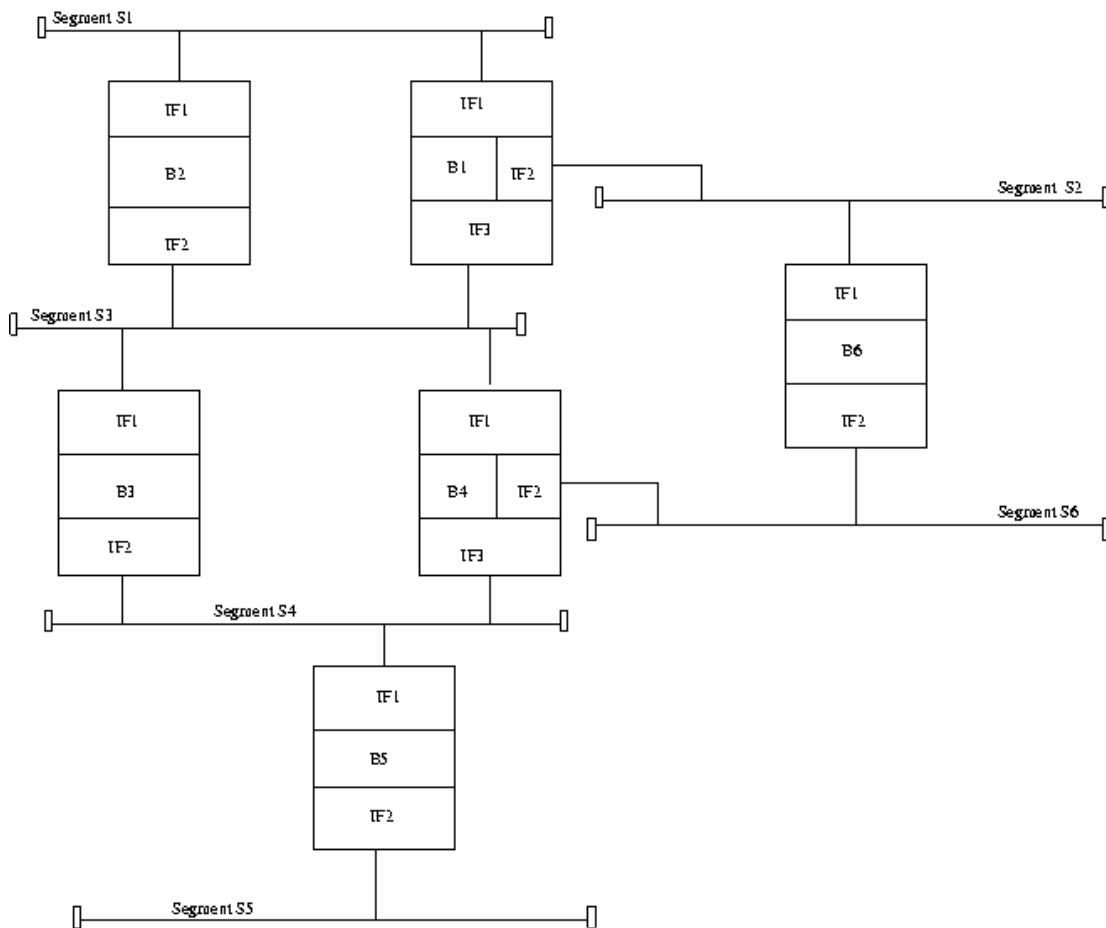
**COE 444 - Internetwork Design and Management
Spring 2003 (Term 022)**

Homework 2

Date: Monday, March 10, 2003

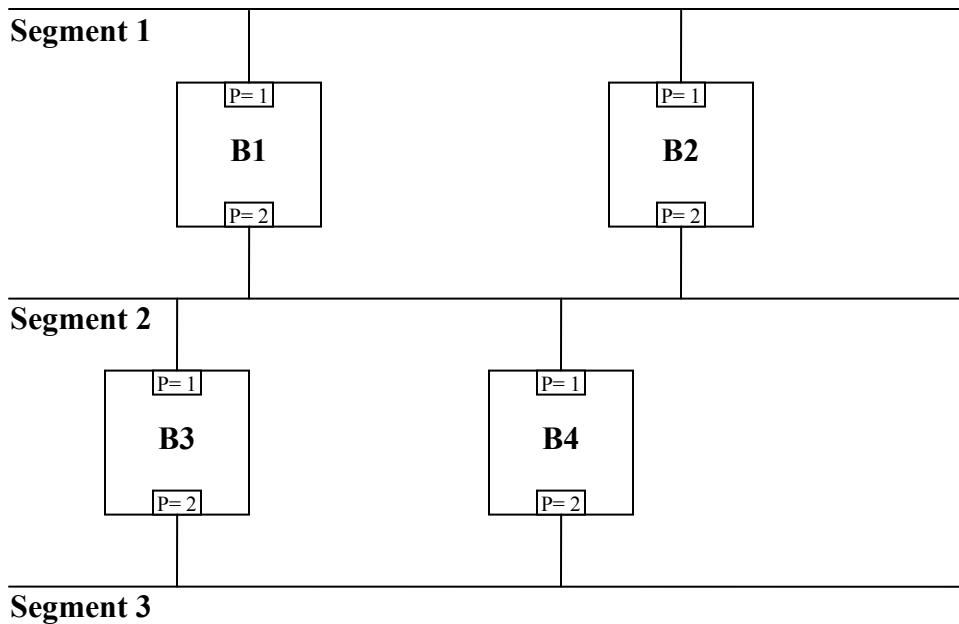
Q1. Given a LAN consisting of six Ethernet segments interconnected by 6 bridges as illustrated in the figure below. Note that the ID of each bridge is its name.

a) Suppose we are using fixed routing to configure the bridges. Determine the central routing directory for all segments, and the routing tables for Bridges B1 and B3. If alternate routes are available then chose the one with the least number of hops. If they are the same than choose the one with the lowest bridge ID.



b) Now, suppose we are using Transparent bridges. Assume that all segments are 10BaseT. Determine the active spanning tree topology. Show the elected Root Bridge, the Root Path Cost (RPC), the Root Port (R), and the Designated Port (D) on all the bridges. Show the ports that will be Blocked (B).

Q2. Given a LAN consisting of three 100 Mbps Ethernet segments interconnected by 4 bridges as illustrated in the figure below. Note that the ID of each bridge is its name.



a) Assume that we are using fixed routing to configure the bridges. Determine the **central routing directory** for all segments, and the **routing table for Bridge B1**. If alternate routes are available then chose the one with the least number of hops. If they are the same then choose the one with the lowest bridge ID.

b) Now, Assume that we are using transparent bridges. Determine the **active spanning tree topology**. Show the elected **Root Bridge**, the Root Path Cost (**RPC**), the Root Port (**R**), and the Designated Port (**D**) on all the bridges. Show the ports that will be Blocked (**B**).